IN THE SPECIFICATION:

Please replace paragraph [0019] with the following paragraph:

[0019] Fig.3A is a schematic diagram of a spring mass acceleration model of the prior art.

Please replace paragraph [0020] with the following paragraph:

[0020] Fig. ~~3a~~ 3B is a schematic diagram of the principle for a cross axis accelerometer in accordance with the present invention.

Please replace paragraph [0044] with the following paragraph:

[0044] Fiber optic detection of acceleration is based on a simple arrangement of a mass 64 straining the fiber 66 as shown in Fig. ~~3a~~ 3A. More advanced concepts have been proposed for accelerometers that have maximum sensitivity in the direction 70 of the fiber or fiber coils such as disclosed in commonly assigned US Patent No. 6,175,108, entitled, "Accelerometer Featuring Fiber Optic Bragg Grating Sensor For Providing Multiplexed Multi-Axis Acceleration Sensing," issued January 16, 2001, the disclosure of which is incorporated herein in its entirety. The accelerometer of the present invention is designed to have maximum sensitivity in a direction perpendicular to the direction of the fiber coils, *i.e.*, high cross-axis sensitivity. One advantage of such a design is miniaturization and packaging of a 3-axis sensor station. Referring now to Fig. ~~3b~~ 3B, increased cross-axis sensitivity has been obtained by disposing a hinge 36 between the housing 98 and the mass 64. Hinge 36 allows the mass 64 to rotate like a pendulum. By mounting an optical fiber 66 some distance from the hinge on arm 65, the fiber will be strained when the mass rotates. Acceleration in either direction 73 perpendicular to the fiber coils makes the housing 98 and hinge 36 move, causing the mass 64 rotate in the direction 71

stretching fiber 66 in the appropriate direction 72. The change of the fiber length can be detected by various interferometric t chniques.

Please replace paragraph [0050] with the following paragraph:

[0050] It is generally not practical to use long fiber length l in a single strand as shown in Fig. ~~3a~~ 3A. Therefore, the present invention uses multiple windings 80, 82 of fiber 66 to obtain a long effective fiber length as best shown with reference to Figs. 4 and 5. The windings 80, 82 of fiber optic accelerometer 22 each comprise N turns of fiber 66 coiled around a fixed mandrel 86 and around a second active mandrel 90 that is mounted by a hinge and can rotate in one plane. The active mandrel 86 is fixed to the mass 64 and the rotation about hinge 36 is used to strain the fiber. The fixed mandrel 86 may be grounded to a housing 98, and the active mandrel 90 may be restrained from rotation normal to the direction represented by arrow 70. When housing 98 is subjected to motion in the cross axis direction 70 the acceleration associated with that motion causes the mass 64 and active mandrel 90 to rotate about the hinge. This movement is detected by the transducers, or sensor coils 94, 96 in a manner comparable to the mass/spring system of Fig. ~~3a~~ 3A.

Please replace paragraph [0054] with the following paragraph:

[0054] The pendulum mass is comprised of central portion 164 and mandrel ends 190 and 192. The mass and the mandrels also represent the arm 65 in Fig ~~3a~~ 3A generating the strain in the fiber coils 150 and 152 when the mass rotates about hinge 136. The rotation can only take place perpendicular to the small thickness of the spring blade.